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PHILOSOPHICAL
TRANSACTIONS
OF THE
ROYAL SOCIETY
OF
LONDON.

FOR THE YEAR MDCCCLXVII.

VOL. 157.

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MDCCCLXVIII.

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MDCCCLXVII.

A D V E R T I S E M E N T.

THE Committee appointed by the *Royal Society* to direct the publication of the *Philosophical Transactions*, take this opportunity to acquaint the Public, that it fully appears, as well from the Council-books and Journals of the Society, as from repeated declarations which have been made in several former *Transactions*, that the printing of them was always, from time to time, the single act of the respective Secretaries till the Forty-seventh Volume; the Society, as a Body, never interesting themselves any further in their publication, than by occasionally recommending the revival of them to some of their Secretaries, when, from the particular circumstances of their affairs, the *Transactions* had happened for any length of time to be intermitted. And this seems principally to have been done with a view to satisfy the Public, that their usual meetings were then continued, for the improvement of knowledge, and benefit of mankind, the great ends of their first institution by the Royal Charters, and which they have ever since steadily pursued.

But the Society being of late years greatly enlarged, and their communications more numerous, it was thought advisable that a Committee of their members should be appointed, to reconsider the papers read before them, and select out of them such as they should judge most proper for publication in the future *Transactions*; which was accordingly done upon the 26th of March 1752. And the grounds of their choice are, and will continue to be, the importance and singularity of the subjects, or the advantageous manner of treating them; without pretending to answer for the certainty of the facts, or propriety of the reasonings, contained in the several papers so published, which must still rest on the credit or judgement of their respective authors.

It is likewise necessary on this occasion to remark, that it is an established rule of the Society, to which they will always adhere, never to give their opinion, as a Body, upon any subject, either of Nature or Art, that comes before them. And therefore the

thanks, which are frequently proposed from the Chair, to be given to the authors of such papers as are read at their accustomed meetings, or to the persons through whose hands they received them, are to be considered in no other light than as a matter of civility, in return for the respect shown to the Society by those communications. The like also is to be said with regard to the several projects, inventions, and curiosities of various kinds, which are often exhibited to the Society; the authors whereof, or those who exhibit them, frequently take the liberty to report and even to certify in the public newspapers, that they have met with the highest applause and approbation. And therefore it is hoped that no regard will hereafter be paid to such reports and public notices; which in some instances have been too lightly credited, to the dishonour of the Society.

The Meteorological Journal hitherto kept by the Assistant Secretary at the Apartments of the Royal Society, by order of the President and Council, and published in the Philosophical Transactions, has been discontinued. The Government, on the recommendation of the President and Council, has established at the Royal Observatory at Greenwich, under the superintendence of the Astronomer Royal, a Magnetical and Meteorological Observatory, where observations are made on an extended scale, which are regularly published. These, which correspond with the grand scheme of observations now carrying out in different parts of the globe, supersede the necessity of a continuance of the observations made at the Apartments of the Royal Society, which could not be rendered so perfect as was desirable, on account of the imperfections of the locality and the multiplied duties of the observer.

A List of Public Institutions and Individuals, entitled to receive a Copy of the Philosophical Transactions of each year, on making application for the same directly or through their respective agents, within five years of the date of publication.

<i>Observatories.</i>		
Armagh.	Kew.	Oxford Ashmolean Society. Radcliffe Library.
Cape of Good Hope.	Liverpool.	Swansea Royal Institution.
Dublin.	Madras.	Sydney University Library.
Edinburgh.	Oxford (Radcliffe).	Woolwich Royal Artillery Library.
Greenwich.		
<i>Institutions.</i>		
Barbadoes	Library and Museum.	Buenos Ayres Museo Publico.
Calcutta	Asiatic Society. Geological Museum.	
Cambridge	Philosophical Society.	<i>Belgium.</i>
Cape Town	South African Library.	Brussels Académie Royale de Médecine. Académie Royale des Sciences.
Dublin	Royal Dublin Society. Royal Irish Academy.	
Edinburgh	Royal Society.	<i>Denmark.</i>
London	Admiralty Library. Chemical Society. Entomological Society. Geological Society. Geological Survey of Great Britain. Institution of Civil Engineers. Linnean Society. London Institution. Royal Asiatic Society. Royal Astronomical Society. Royal College of Surgeons. Royal College of Physicians. Royal Geographical Society. Royal Horticultural Society. Royal Institute of British Architects. Royal Institution of Great Britain. Royal Medical and Chirurgical Society. Royal Society of Literature. Society of Antiquaries. Society of Arts. The Queen's Library. The Treasury Library. The War Office. United Service Museum.	Copenhagen Kongelige Danske Videnskabernes Selskab.
Malta	Zoological Society.	
Manchester	Public Library.	<i>France.</i>
Melbourne	Literary and Philosophical Society.	Montpellier Académie des Sciences et Lettres. Faculté de Médecine.
Montreal	University Library.	Paris Académie des Sciences de l'Institut. Dépôt de la Marine. Ecole des Mines. Ecole Normale Supérieure. Jardin des Plantes. Société Entomologique. Société de Géographie. Société Géologique. Société d'Encouragement pour l'Industrie Nationale.
		Toulouse Académie Impériale des Sciences.
		<i>Germany.</i>
		Altona Die Sternwarte.
		Berlin Königliche Akademie der Wissenschaften. Physikalische Gesellschaft.
		Brünn Naturforschender Verein.
		Danzig Naturforschende Gesellschaft.
		Dresden Kaiserliche Leopoldino-Carolinische deutsche Akademie der Naturforscher.
		Frankfort Senckenbergische naturforschende Gesellschaft.
		Giessen Grossherzogliche Universität.
		Göttingen Königliche Gesellschaft der Wissenschaften.
		Gratz Naturwissenschaftliche Verein für Steiermark.
		Hamburg Naturwissenschaftlicher Verein.
		Königsberg Königliche physikalisch-ökonomische Gesellschaft.

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 Mannheim Grossherzogliche Sternwarte.
 Munich Königliche Bayerische Akademie der Wissenschaften.
 Prague Königliche böhmische Gesellschaft der Wissenschaften.
 Vienna Kaiserliche Akademie der Wissenschaften.
 Geologische Reichsanstalt.
 Würzburg Physikalisch-medicinische Gesellschaft.

Hungary.

Pesth Á Magyar Tudós Társaság—Die Ungarische Akademie der Wissenschaften.

Italy.

Bologna Accademia delle Scienze dell' Istituto.
 Catanea Accademia Gioenia di Scienze Naturali.
 Florence Reale Museo di Fisica.
 Milan Reale Istituto Lombardo di Scienze, Lettere ed Arti.
 Modena Società Italiana delle Scienze.
 Naples Società Reale, Accademia delle Scienze.
 Palermo Accademia di Scienze e Lettere.
 Rome Accademia Pontificia de' Nuovi Lincei.
 Osservatorio del Collegio Romano.
 Turin Reale Accademia delle Scienze.
 Venice I. R. Istituto Veneto di Scienze, Lettere ed Arti.

Java.

Batavia Bataviaasch Genootschap van Kunsten en Wetenschappen.

Netherlands.

Amsterdam Koninklijke Akademie van Wetenschappen.
 Haarlem Hollandsche Maatschappij der Wetenschappen.
 Rotterdam Bataafsch Genootschap der Proefondervindelike Wijsbegeerte.

Portugal.

Lisbon Academia Real das Sciencias.

Russia.

Kazan Imperatorsky Kazansky Universitet.
 Moscow Société Impériale des Naturalistes.
 Le Musée Publique.

Pulkowa Nikolai-Haupsternwarte.
 St. Petersburg Académie Impériale des Sciences.

Spain.

Cadiz Observatorio de S. Fernando.
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Sweden and Norway.

Christiania Kongelige Norske Frederiks Universitet.
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Switzerland.

Bern Allg. Schweizerische Gesellschaft.
 Geneva Société de Physique et d'Histoire Naturelle.
 Institut National Genevois.

Transylvania.

Klausenburg Az Erdélyi Muzeum—Das siebenbürgisches Museum.

United States.

Albany New York State Library.
 Boston American Academy of Sciences.
 Newhaven (Conn.) The Editors of the American Journal.
 Cambridge Harvard University.
 Philadelphia Academy of Natural Sciences.
 American Philosophical Society.
 Washington Smithsonian Institution.
 U. S. Naval Observatory.

The *fifty* Foreign Members of the Royal Society.

A List of Public Institutions and Individuals, entitled to receive a Copy of the Astronomical Observations (including Magnetism and Meteorology) made at the Royal Observatory at Greenwich, on making application for the same directly or through their respective agents, within two years of the date of publication.

<i>Observatories.</i>	<i>Institutions.</i>
Altona.	Aberdeen University.
Armagh.	Berlin Academy of Sciences.
Berlin.	Boston American Academy of Sciences.
Breslau.	Brunswick, U.S. Bowdoin College.
Brussels.	Cambridge Trinity College Library.
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Cambridge.	Dublin University.
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Tübingen.	Stockholm Royal Academy of Sciences.
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Vienna.	Waterville, Maine (U.S.) .. College.
Wilna.	
	<i>Individuals.</i>
	Lowndes' Professor of Astronomy Cambridge.
	Plumian Professor of Astronomy Cambridge.
	President of the Royal Society London.
	South, Sir James Kensington.
	The Earl of Rosse Parsonstown.

A List of Observatories, Institutions and Individuals, entitled to receive a Copy of the
Magnetical and Meteorological Observations made at the Royal Observatory, Greenwich.

Observatories.

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Leipzig	Dr. C. Bruhns.
Lisbon	Senhor da Silveira.
Marburg	Prof. C. L. Gerling.
Prague	K. Jelinek.
Stockholm	Professor H. Selander.
St. Petersburg	(Twelve copies for distribution to the Russian Mag. and Met. Obs.) The Compass Observatory, Capt. Belavenetz.
Toronto	Professor Kingston.
Upsal	Professor Svanberg.
Washington	Admiral C. H. Davis.

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Lloyd, Rev. Dr.	Dublin.
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Phillips, Prof. John	Oxford.
Quetelet, A.	Brussels.
Sabine, Lieut.-General, R.A...	London.
Souza, Senhor da	Coimbra.
Wartmann, Prof. Elie	Geneva.
Younghusband, Col., R.A....	Woolwich.

Institutions.

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Bonn	University.
Boston, U.S.	The Public Library (late Bowditch).
Cambridge	Philosophical Society.
Cherkow	University.
Falmouth	Royal Cornwall Polytechnic Society.
London	House of Lords, Library.
	House of Commons, Library.
	King's College.
	Royal Society.
	University College, Library.
	Meteorol. Office, Board of Trade.
Paris	Meteorological Society.
St. Bernard	Convent.
Washington	Smithsonian Institution.
Woolwich	Office of Mag. and Met. Publication.

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MDCCCLXVIII.

**ADJUDICATION of the MEDALS of the ROYAL SOCIETY for the year 1867 by
the PRESIDENT and COUNCIL.**

The COPELY MEDAL to KARL ERNST VON BAER, of St. Petersburg, For. Mem. R.S., for his discoveries in Embryology and Comparative Anatomy, and for his Contributions to the Philosophy of Zoology.

A ROYAL MEDAL to Messrs. JOHN BENNET LAWES, F.R.S., and Dr. JOSEPH HENRY GILBERT, F.R.S., for their Researches in Agricultural Chemistry.

A ROYAL MEDAL to Sir WILLIAM EDMOND LOGAN, F.R.S., for his Geological Researches in Canada, and the Construction of a Geological Map of that Colony.

The BAKERIAN LECTURE was delivered by FREDERICK AUGUSTUS ABEL, F.R.S.; it was entitled "Researches on Gun-cotton.—Second Memoir. On the Stability of Gun-cotton."

The CROONIAN LECTURE was delivered by Dr. J. BURDON SANDERSON; it was entitled "On the Influence exercised by the Movements of Respiration on the Circulation of the Blood."

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